

REMARKS

The present Amendment is responsive to the final Office Action mailed July 29, 2010 in the above-identified patent application.

Claims 40-50 and 57-67 are the claims currently presented for examination in the present application.

Claims 40-45, 48, 58-62 and 65 are amended to clarify features recited thereby. These amendments are fully supported by Applicant's disclosure see, for example, with respect to the amendments to claims 40 and 57, Specification, page 9, lines 2-9 and page 8, lines 2-8 (the data collection controller 4 and the maintenance server 2 may each have control software), Specification, page 24, lines 20-22, and page 19, line 20 - page 20, line 2 (abnormality of a control element detected as a deviation from a reference value and a synthetic assessment to determine that no processing abnormality is present based on a combination of the plurality of control elements), and Specification, page 20, lines 5-9 (handling of a detected processing abnormality by interrupting processing by a substrate processing apparatus).

Rejection of Claims 40-47 and 57-64 under 35 U.S.C. § 112, Second Paragraph

Claims 40-47 and 57-64 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite on the ground that the claims omit structural cooperative relationships between the abnormality detection part and the collection part.

Claims 40 and 57 recite that the collection part collects a plurality of control elements in the substrate processing apparatus, and that an abnormality detection part detects a processing abnormality based on the plurality of control elements collected by said collection part. Fig. 1 illustrates a data collection controller 4 that includes both data collection part 441 and abnormality detection part 442. Further, claims 40 and 57 recite that the abnormality detection part comprises an abnormality detection program. Accordingly, it is respectfully submitted that claims 40 and 57 recite the required structure cooperative relationships.

Rejection of Claims 40-47 and 57-64 under 35 U.S.C. § 103

Claims 40-47 and 57-64 are rejected under 35 U.S.C. § 103 as being obvious from Takashi et al., JP 2003-005836 in view of Nakamoto et al., U.S. Patent No. 7,047,093 or Uchida et al., JP 06-331507. Reconsideration of this rejection is respectfully requested.

The Examiner's comments on page 2 of the Office Action appear to Applicant to suggest an amendment to overcome the cited art of record. The amendments to claims 40 and 57 are based on this suggestion and thus recite aspects of the abnormality detection program.

Claims 40 and 57 require an abnormality detection part comprising an abnormality detection program configured to detect a processing abnormality, the abnormality detection program being configured to detect that the first control element of the plurality of control elements deviates from a first reference value by an amount sufficient to determine a presence of abnormality, and to determine an absence of the processing abnormality in processing as a whole when a second control element of the plurality of control element of the plurality of control element deviates from a respective reference value by a predetermined amount or more and the abnormality detection program determines that effects caused by such deviations compensate each other.

The Office Action alleges that the concept of determining that there is no processing abnormality based on the deviations canceling each other is a nebulous process step (Office Action, page 5). However, claims 40 and 57 recite that the abnormality detection program detects that a first control element deviates from a first reference value by an amount sufficient to determine the presence of an abnormality, and recites further that the abnormality detection program determines an absence of the processing abnormality in processing as a whole when a second control element deviates by a predetermined amount or more and the abnormality detection program determines the effects caused by such deviation to compensate each other. Accordingly, it is respectfully submitted that claims 40 and 57 recite an abnormality detection program that is configured to execute certain determinations and thus to provide a more accurate abnormality detection as discussed in the previous Amendment.

The Office Action alleges that using a combination of processing parameter data to determine the status of a process are taught by Nakamoto and Uchida. However, the Office Action does not allege that Nakamoto and Uchida disclose the above-cited recitations of claims 40 and 57. Moreover, the cited art, including Nakamoto and Uchida do not disclose or suggest such features.

Claims 41-47 depend from claim 40 and claims 58-64 depend from claim 57. Therefore, claims 41-47 and 58-64 are patentably distinguishable over the cited art for at least the same reasons as their respective base claims.

Rejection of Claims 48-50 and 65-67 under 35 U.S.C. § 103

Claims 48-50 and 65-67 are rejected under 35 U.S.C. § 103 as being obvious from Takashi et al. in view of Nakamoto et al. or Uchida et al. in view of Konishi et al., U.S. Patent No. 6,145,519. Reconsideration of this rejection is respectfully requested.

Konishi does not cure the above-discussed deficiencies of Takashi, Nakamoto and Uchida as they relate to the above-cited features of claims 40 and 57. Therefore, even taken together in combination, Takashi, Nakamoto, Uchida and Konishi do not disclose or suggest the recitations of claims 40 and 57.

Claims 48-50 depend from claim 40 and claims 65-67 depend from claim 57. Therefore, claims 48-50 and 65-67 are patentably distinguishable over the cited art for at least the same reasons as their respective base claims.

In view of the foregoing discussion, withdrawal of the rejections and allowance of the claims of the application are respectfully requested.

Respectfully submitted,



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ON OCTOBER 27, 2010

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